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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,178	09/11/2003	Siu H. Lam	P16517	7608
28062	7590	08/04/2005	EXAMINER	
BUCKLEY, MASCHOFF, TALWALKAR LLC 5 ELM STREET NEW CANAAN, CT 06840			SWERDLOW, DANIEL	
			ART UNIT	PAPER NUMBER
			2646	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,178

Applicant(s)

LAM ET AL.

Examiner

Daniel Swerdlow

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12,20-23,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12,20-23,33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. **Claims 9 through 12, 20 through 23, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sauvage in view of Cannon et al (US Patent 6,671,252).**
3. Regarding Claim 9, Sauvage discloses processing (i.e., selecting) every third incoming frame (i.e., frames from a sequence of frames of telephony signal data) to perform DTMF detection (i.e., analyzing the selecting frames to determine whether a signaling tone is present) (§0045). Therefore, Sauvage anticipates all elements of Claim 9 except analyzing subframes to determine the presence of signaling tone only when an analyzed frame includes a beginning or an end of a tone after the frame has been analyzed to determine tone presence. Cannon discloses iteratively reducing frame length (i.e., analyzing subframes) after a tone is initially detected (i.e., after a frame has been analyzed and only if the frame contains a beginning of tone) and using the shortened frame length to achieve improved tone start time resolution (i.e., the subframes each overlapping a portion of the analyzed frame) (column 5, lines 61-65). Cannon further discloses that such processing allows accurate and efficient measurement of tone burst duration and increases the robustness of tone detectors (column 4, lines 31-43) and increases resolution of tone start time measurement. As such, it would have been obvious to one skilled in the art at the time of the invention to apply the subframe processing taught by Cannon to the detector taught by Sauvage for the purpose of realizing the aforesaid advantages.

Art Unit: 2646

4. Regarding Claim 10, Sauvage further discloses processing (i.e., selecting) every third incoming frame (i.e., every n th frame where n is greater than 1) (§0045).
5. Regarding Claim 11, Sauvage further discloses doing DTMF detection on frames $n-1$ (Fig. 6, step 612) if DTMF is detected in frames n (Fig. 6, steps 608, 610) (i.e., selecting each frame immediately before an analyzed frame determined to include signaling tone).
6. Regarding Claim 12, Sauvage further discloses use of the Goertzel algorithm (i.e., a fast Fourier transform) for the DTMF detection (§0027).
7. Claims 20 through 23 are essentially similar to Claims 9 through 12, respectively, and are rejected on the same grounds.
8. Regarding Claim 33, in addition to the elements shown above apropos of Claim 9, Sauvage further discloses receiving an input signal (Fig. 1, reference 102; §0026), which inherently requires an interface. Sauvage further discloses an input buffer (Fig. 1, reference 104; §0026, 0033) that receives frames of discrete samples of the input signal (i.e., store a telephony signal data frame included in an input signal).
9. Regarding Claim 34, in addition to the elements shown above apropos of Claim 9, Sauvage further discloses receiving an input signal (Fig. 1, reference 102; §0026), which inherently requires an interface. Sauvage further discloses an embodiment that is an article of manufacture comprising a program storage medium having computer readable program code means embodied therein for performing a method of detecting a dual tone multi-frequency (DTMF) tone in an input signal (§0017).

Response to Arguments

10. Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection. While no new references have been cited, the teachings from Cannon that are applied to the amended claims are different from those applied previously and constitute new grounds necessitated by applicant's amendment.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 571-272-7531. The examiner can normally be reached on Monday through Friday between 7:30 AM and 5:00 PM.

Art Unit: 2646

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh H. Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Swerdlow
Examiner
Art Unit 2646

ds
29 July 2005